

after each injection there was pain in the legs. However, this time the pain after injection was relieved, rather than made worse, by wearing a linen mesh bandage. Such relief is characteristic of injections following an old phlebitis.

Mechanical tests alone for the patency of the deep veins are insufficient when there is a past history of phlebitis. The tests may demonstrate the patency of the deep veins now, but injection may stir up the old phlebitis in deep veins and occlude them. Such patients should be treated rarely, if at all, by the occasional worker. A detailed discussion of factors involved in these cases, with special precautions needed, has been made by the author² and by Delater.³

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ASPERGILLUS DERMATOMYCOSIS*

REPORT OF CASE

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ALTHOUGH skin infections with aspergilli are known to exist in tropical countries, surprisingly few cases have been described from the United States. This dearth of cases seems out of proportion to the frequency with which the infection is casually mentioned by dermatologists. Puestow⁴ and Myers and Dunn³ have each recorded a case, while Lynch² in a general way associates such an infection with *Leptus* bites. Aside from these articles very little of a specific nature is recorded. It is therefore deemed advisable to describe the following case.

REPORT OF CASE

H. C., a Mexican male laborer of thirty-five years, entered San Diego County General Hospital June 18, 1931, on the skin service of Dr. Philip K. Allen. Three weeks previously, he first noticed a reddened swelling on the dorsum of the left hand and wrist while working in a sewer ditch. This ulcerated very rapidly (twelve hours) and gradually increased in area. There were swollen glands in the axilla, but no fever or other systemic symptoms. General physical examination was negative. Several days after admission, a reddened area was noted near the left eye. Superficial x-radiation was administered to both lesions without improvement. Several cultures from the wrist lesion yielded staphylococci. Urinalysis and Wassermann were negative. Blood count showed a total of 11,800 whites per millimeter,³ with 70 per cent neutrophils and 6 per cent eosinophils.

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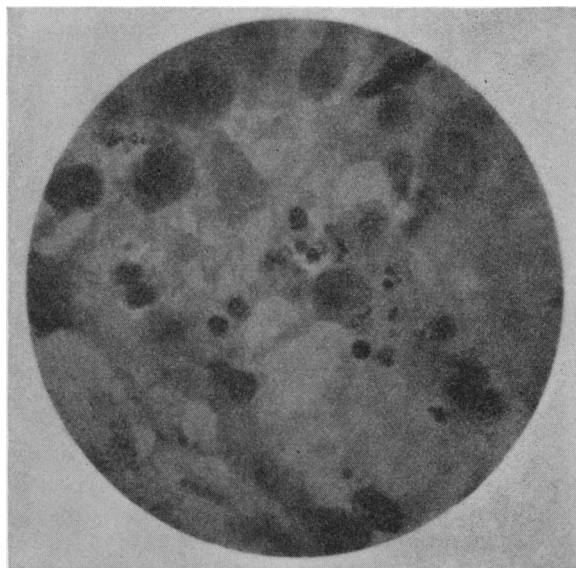


Fig. 1.—Small Gram-positive yeast-like bodies found in biopsy material with Gram-Weigert technique. 1250 X.

Two weeks after admission biopsy was resorted to in an attempt to clarify the diagnosis. This presented epithelioid hyperplasia and intra-epithelial abscesses quite similar to the picture seen in blastomycosis. Prolonged search did not reveal any such organisms. Gram-Weigert technique was employed in an attempt to demonstrate fungi of the "yeast type."

Deep in the cutis, and where the inflammatory exudate was thickest, small Gram-positive yeast-like organisms were found in groups, but could not be demonstrated to be budding (Fig. 1). These resembled very much organisms of the monilia group previously seen in tissues by the writer in a case reported as "torula."¹

Meanwhile the lesions had considerably improved with copper sulphate wet dressings and internal sodium salicylate administration and the patient was discharged to the outpatient clinic with instructions to return in one week. He failed to return for several weeks. He again presented himself at the hospital nineteen days after discharge, in a much aggravated condition.

At this time the lesion on the hand had spread considerably. Lesions on the face were very pronounced and presented small pustules but no ulceration. There was marked swelling, involving the region of both eyes, which extended to the conjunctival margins. The appearance at this time is shown by the illustrations (Figs. 2 and 3).

Cultures on Sabouraud's medium and plain agar and Loeffler's blood serum made during the previous admission were negative except for Loeffler's, which after one week's time showed a growth in the thinnest portion of the slant that had become somewhat dry. This was later successfully transferred to Sabouraud's media made with either maltose or dextrose. The appearance of the growth varied considerably between these two sugars.

At the second admission, cultures were made from the small pustules on the face but no growth was obtained. Wet mounts, however, presented asci having thick side walls and thin ends, filled with endospores. They were elongated (about 15 microns) and presented rather square ends.

The patient again improved on copper and zinc sulphate wet packs externally and sodium iodid intravenously and potassium iodid by mouth. He was discharged to the outpatient clinic four weeks after the second admission, much improved. The lesions subsequently progressed to complete healing.



Fig. 2.—Appearance of skin lesions on hand.

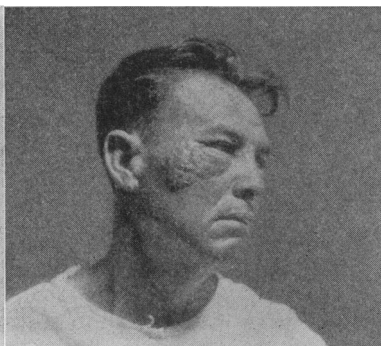


Fig. 3.—Appearance of skin lesions on face.

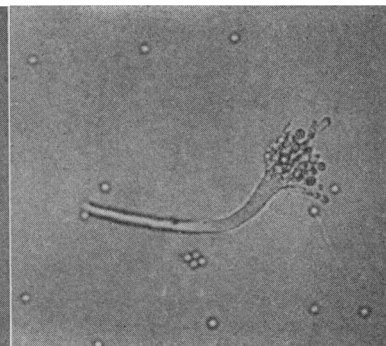


Fig. 4.—Wet mount of culture showing characteristic fructifying arrangement of an aspergillus. 500X.

COMMENT

The original culture was obtained on Loeffler's blood serum at the end of one week in the portion of the slant somewhat dried from incubation. The appearance was that of a fine white powder or frost. This was transferred to Loeffler's serum several times with a constant appearance except in one instance when, after two months, darker colonies similar to those characteristic for Sabouraud's appeared. On Sabouraud's dextrose agar, the colonies appeared in twenty-four hours. They were at first discrete whitish mound-shaped colonies which soon fused. At the end of three days they began to take on a greenish cast and gradually changed into a very dark brown. Through this brown growth, covered with dark hyphae, appeared at the end of ten days to two weeks a snow-white tuft or two of hyphae, which maintained their whiteness and gradually spread.

Quite different was the growth on Sabouraud's maltose. In this instance the growth spread over the surface of the medium, causing deep furrows and wrinkles. Aerial hyphae were scarcely discernible, except in the drier portion of the slant. The color changes occurred much more slowly and an orange transition phase was observed. This was then replaced by the greenish color.

In broth the colonies appeared as fluffy balls which grew to a diameter of about four millimeters. The colonies at the surface fused and spread over the surface of the medium. These colonies presented a dry growth with fine hyphae. Microscopically the organism is composed of numerous mycelial threads and small round organisms approximately one-half the size of red blood corpuscles. Occasionally a terminal branch is seen, bearing on its free end a mass of organisms arranged in such a manner as to identify the organism as an aspergillus (Fig. 4). The cultural characteristics have gradually changed during six months' cultivation.

The organism is distinctly an aspergillus, but is not further classified.

Two attempts to inoculate the abraded surface of the forearm of a volunteer human subject with this organism have failed. The conditions of the original infection cannot be said to have been duplicated, however, and the additional possibility

exists that the vegetative stage on culture media differs in pathogenicity and from that found in the soil. Such is the case with certain other fungi. Whether or not bacterial infection must also be present is unknown.

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Calls Character More Important Than Grades.—Uncertain character and shocking manners are found in graduates of colleges and often of professional schools, said Nicholas Murray Butler, president of Columbia University, in his annual report made public in late December. Doctor Butler feels that the mere passing of examinations should not win the student advancement.

"The capacity to pass these intellectual tests should rank third in estimating the educational progress of a student," Doctor Butler declared. "Evidences of character-building should come first, and evidences of his good manners and respect and concern for others should come second; and, these lacking, no amount of intellectual performance of any kind should win him advancement or graduation. Such a one would not be educated at all; he would only have been instructed in some degree in the subject-matter of a given field of knowledge."—*A. N. A. Bulletin*.

Graduate Versus Undergraduate Nursing.—By abandoning its school of nursing and substituting a graduate staff, a sixty-bed Canadian hospital reduced its per capita cost 74 cents a day, according to an analysis of government figures. Grace M. Fairley, superintendent of the school for nurses, Vancouver General Hospital, discusses the change in nursing service in the *Canadian Nurse* for November.

Besides the financial saving, the superintendent of the hospital found five other advantages in a graduate staff: (1) there can be closer supervision of the smaller group of workers (that is, the graduate staff); (2) the greater sense of responsibility, especially of hospital property, results in more economical use of all supplies, particularly record forms, dressings and linen; (3) there is less illness among the graduate staff, with consequent reduction of relief staff and cost of care during illness; (4) a fluctuation of staff is possible with graduate personnel if or when there is a reduction of patients; and (5) the patients are getting better service.—*A. N. A. Bulletin*.